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Chapter 6
Economic Approaches

Introduction

This chapter reviews recent research on economic aspects of tobacco production and the use of tobacco products in the United States. Much of the chapter focuses on the impact of various governmental policies related to tobacco. As was the case with the regulatory effects examined in Chapter 5, the "interventions" recounted here require a broader definition and a different set of measurement tools (see Chapter 1).

The chapter first considers the supply of tobacco and tobacco products. The history of tobacco and the evolution of the cigarette industry in the United States are briefly discussed. More comprehensive summaries can be found in the 1992 Surgeon General's report *Smoking and Health in the Americas* (U.S. Department of Health and Human Services [USDHHS] 1992) and in several sources cited herein. Tobacco-related supply-side policies are reviewed in more detail. In particular, the tobacco support program is closely examined, and its economic implications are discussed. That section is followed by a discussion of the impact of tobacco taxes and other prevention policies on prices in the highly concentrated U.S. cigarette markets. U.S. trade policy relating to tobacco and tobacco products is reviewed, followed by a discussion of the domestic and international impact of these policies. Finally, the economic impact of tobacco on the U.S. economy and its implications for policy are described.

In the second part of the chapter, economic studies of the demand for tobacco are reviewed. Although several factors affect the demand for tobacco products, this section focuses on the effects of tobacco prices (particularly as they are raised by increasing tobacco taxes) on demand. Recent econometric and other informative studies of the demand for tobacco products are described. (A more detailed review of early studies is contained in the 1989 Surgeon General's report *Reducing the Health Consequences of Smoking: 25 Years of Progress* [USDHHS 1989].)

The third part of the chapter focuses on the most important economic policy in the campaign to reduce tobacco use—higher cigarette excise taxes. This section reviews the alternative rationales for imposing cigarette and other tobacco taxes, including a historical or comparative approach, one based on the economic costs of cigarette smoking, one focused on the health benefits of higher taxes, and one based on the revenue potential of the taxes. Discussion of the appropriate level of the taxes suggested by each approach follows its review.

Supply of Tobacco and Tobacco Products

Tobacco is a truly American plant. The first known evidence of tobacco use is depicted in carvings on a Mayan temple in Chiapas, Mexico, that date from A.D. 600–900 (Wagner 1971). Europeans were first introduced to tobacco in 1492 when American Indians presented gifts of the substance to Christopher Columbus. On Columbus' return home, tobacco was introduced to Spain and throughout Europe. Tobacco was widely grown by early English settlers in America and was exported from the colonies to England, where it was reexported to many other destinations. Colonial tobacco exports to England grew from 100,000 pounds in 1620 to 100 million pounds just before the Revolutionary War, making tobacco the single most important commodity exported from the colonies to England (Johnson 1984). Indeed, tobacco was so important in some colonies that it was sometimes used as the unit of account (Johnson 1984).

The high tariffs imposed by England on tobacco and other imports from the colonies contributed to the start of the Revolutionary War. In the newly formed United States, tobacco soon became the leading agricultural export commodity. The tobacco industry played a significant part in the U.S. economy of the 19th and early 20th centuries. Although tobacco consumption has declined in recent years, it is still economically important in major tobacco-producing states.

In many ways, tobacco is an ideal crop to grow. It grows under a variety of soil and climatic conditions and thrives under specific but fairly common circumstances. The tobacco plant has prodigious leaf growth yet takes up relatively little field space, and the financial return for tobacco is both absolutely and relatively high compared with other agricultural commodities (Goodman 1993). For example, in 1993, the per acre value of tobacco in the United States, $3,780, was well above the values for other crops (Grise 1995). Because of these factors, tobacco is grown in more than 120 countries and thus is the most widely grown nonfood crop in the world (cotton acreage substantially exceeds that of tobacco, but tobacco is grown in about twice as many countries as cotton is). In the United States, tobacco is a highly profitable crop for other reasons, including agricultural price supports that guarantee relatively high prices; the availability of loans from government, or tobacco companies, or both; the provision of seed, fertilizer, and other agricultural input from external sources; and export subsidies (Food and Agriculture Organization of the United Nations 1990). Counter to these profitable arrangements, tobacco growing is relatively labor-intensive, demands heavy use of fertilizers and pesticides, and often requires the use of fuel for tobacco curing.

Tobacco is a storable product, and its quality initially improves with age. After being harvested, tobacco goes through several steps in a processing course, including sorting and grading (according to type and quality) and curing and drying by various techniques (including flue, fire, sun, and air curing). Most of this processing is done on the tobacco farm before the product is sold to the producers of cigarettes and other tobacco products.

Several types of tobacco are grown in the United States and throughout the world. Burley and flue-cured tobacco, the primary ingredients in cigarettes, are the most important of the domestically grown types of tobacco; they account for about 93 percent of total production (Tables 6.1 and 6.2). Most burley tobacco is grown in Kentucky and flue-cured tobacco is grown primarily in North Carolina. These two states account for about two-thirds of domestically grown tobacco.

Although several other types of tobacco are grown in 14 other states, about one-quarter of the total domestic production is concentrated in Georgia, South Carolina, Tennessee, and Virginia. Other important types of domestically grown tobacco include Maryland tobacco, an important component of cigarettes because it burns slowly; fire-cured tobacco, which is used in snuff; dark air-cured and sun-cured tobaccos, which are used in chewing tobacco and small dark cigars; and other types used for cigar leaf (Johnson 1984).

In 1992, the United States had about 124,000 farms producing tobacco, down sharply from 330,000 in 1964 (U.S. Department of Agriculture [USDA] 1998a). Tobacco was grown on an estimated 644,000 acres in 1999, down sharply from its recent peak of 836,000 acres in 1997. In 1998, tobacco farms produced almost 1.5 billion pounds of tobacco at a total value of approximately $2.7 billion. After inflation is accounted for, however, the value of domestically grown tobacco has fallen since 1980. More than 1.4 billion pounds of domestically grown tobacco were used in 1998, with less than two-thirds of this used domestically, while the remainder was exported (Table 6.3).

Domestic consumption of domestically grown, unmanufactured tobacco fell steadily from the 1950s through the early 1990s, from a peak of almost 1.6 billion pounds in 1952 to about 900 million pounds in 1993 (Table 6.3). After rising for a few years, domestic consumption of domestically grown tobacco fell to just over 900 million pounds in 1998. Declining prevalence of tobacco use is not the only—or even the main—factor behind the long-term decrease; domestically produced cigarettes contain about 35 percent less tobacco than they did 40 years ago (Womach 1994b). Furthermore, the use of imported tobacco in domestically produced cigarettes has greatly increased in recent years. In 1950, the imported tobacco content of domestically produced cigarettes was approximately 6 percent. By 1993, this proportion had risen to about 40 percent. The increased use of foreign tobacco is partly due to improvements in the quality of this tobacco, its relatively low price, reduced barriers to trade in tobacco, and the increased market penetration of lower-quality generic cigarettes, which include a higher share of imported tobacco.

The decline in the domestic use of tobacco grown in the United States has been offset somewhat by increased exports of domestically grown tobacco. However, unmanufactured exports peaked at 765 million pounds in 1978 and have fallen fairly steadily since; in 1998, total exports were 539 million pounds (Table 6.3). The largest export markets for U.S.-grown tobacco in recent years have been Japan, Germany, the Netherlands, and Turkey (USDA 1998a).

The combination of declining U.S. tobacco exports and increased tobacco production in foreign countries (particularly Argentina, Brazil, Malawi, and Zimbabwe) has reduced the U.S. share in world tobacco exports. In 1960, the United States' share of world tobacco exports was 27 percent. By 1997, this share had fallen to 11 percent. Moreover, in 1993, the United States

Table 6.1. Burley tobacco production and value, 1975–1998

Crop year	Production (million lbs.)	Average price to farmers (cents/lb.)	Real price to farmers* (cents/lb.)	Farm value (million $)	Real farm value* (million $)
1975	640	105.5	196.1	675.1	1,254.8
1976	664	114.2	200.7	758.3	1,332.7
1977	613	120.0	198.0	735.6	1,213.9
1978	614	131.2	201.2	805.8	1,235.8
1979	472	145.2	200.0	685.6	944.4
1980	558	165.9	201.3	925.7	1,123.4
1981	726	180.7	198.8	1,311.9	1,443.2
1982	777	181.0	187.6	1,406.4	1,457.4
1983	527	177.3	178.0	934.4	938.1
1984	674	187.6	180.6	1,264.4	1,217.0
1985	542	159.7	148.4	865.6	804.4
1986	420	156.5	142.8	657.3	599.7
1987	428	156.3	137.6	669.0	588.9
1988	468	161.0	136.1	753.5	636.9
1989	498	167.2	134.8	832.7	671.5
1990	592	175.3	134.1	1,037.8	794.0
1991	657	178.8	131.3	1,174.7	862.5
1992	700	181.5	129.4	1,270.5	905.6
1993	627	181.6	125.7	1,138.6	788.0
1994	568	184.1	124.2	1,045.7	705.6
1995	480	185.5	121.7	890.4	584.3
1996	516	192.2	122.5	991.8	632.1
1997	629	188.5	117.4	1,185.7	738.7
1998†	590	190.3	116.7	1,123.3	688.9

*Real price to farmers and real farm value are obtained by dividing the nominal average price and farm value by the national Consumer Price Index; the average of 1982–1984 is the benchmark.
†Subject to revision.
Sources: U.S. Department of Agriculture 1996, 1999a; U.S. Department of Labor 1999.

lost to Brazil its historically dominant position as the leading exporter of tobacco (Womach 1994b).

These trends for domestically grown, unmanufactured tobacco have not been observed for domestic production of the chief manufactured tobacco product—the cigarette (Table 6.3). Although total annual domestic consumption fell fairly steadily from a 1982 peak of 634 billion cigarettes to an estimated 435 billion in 1999, total domestic cigarette consumption peaked in 1996. The difference is the result of large increases in the export of domestically produced cigarettes. In 1985, the United States exported 58.9 billion cigarettes. Exports peaked in 1996 at more than 240 billion cigarettes, almost one-third of total domestic production in that year. Since 1996, however, cigarette exports have fallen, to an estimated 150 billion by 1999.

Table 6.2. Flue-cured tobacco production and value, 1975–1998

Crop year	Production (million lbs.)	Average price to farmers (cents/lb.)	Real price to farmers* (cents/lb.)	Farm value (million $)	Real farm value* (million $)
1975	1,415	99.8	185.5	1,412.2	2,624.9
1976	1,316	110.4	194.0	1,452.9	2,553.4
1977	1,124	117.6	194.1	1,321.8	2,181.2
1978	1,206	135.0	207.1	1,628.1	2,497.1
1979	974	140.0	192.8	1,363.3	1,877.5
1980	1,086	144.5	175.4	1,569.3	1,904.5
1981	1,144	166.4	183.1	1,903.6	2,094.2
1982	994	178.5	185.0	1,774.3	1,838.6
1983	855	177.9	178.6	1,521.0	1,527.2
1984	850	181.1	174.3	1,539.4	1,481.6
1985	789	171.9	159.8	1,356.3	1,260.5
1986	667	152.7	139.3	1,018.5	929.3
1987	683	158.7	139.7	1,083.9	954.2
1988	796	161.3	136.3	1,283.9	1,085.3
1989	838	167.4	135.0	1,402.8	1,131.3
1990	920	167.3	128.0	1,539.2	1,177.6
1991	882	172.3	126.5	1,519.7	1,115.8
1992	901	172.6	123.0	1,555.1	1,108.4
1993	892	168.1	116.3	1,499.5	1,037.7
1994	807	169.8	114.6	1,370.3	924.6
1995	854	179.4	117.7	1,532.1	1,005.3
1996	897	183.4	116.9	1,645.1	1,048.5
1997	1,014	172.0	107.2	1,744.1	1,086.7
1998†	815	175.5	107.7	1,430.0	877.5

*Real price to farmers and real farm value are obtained by dividing the nominal average price and farm value by the national Consumer Price Index; the average of 1982–1984 is the benchmark.
†Subject to revision.
Sources: U.S. Department of Agriculture 1996, 1999a; U.S. Department of Labor 1999.

Tobacco Price Supports

Despite being such a profitable crop, tobacco, like other U.S. crops, has benefited from agricultural price supports that have been in place for much of the 20th century. In the 1920s, before these supports were in place, tobacco cooperatives had formed in various regions in an attempt to control the supply of tobacco and consequently raise tobacco prices and the incomes of tobacco farmers. These and other agricultural cooperatives were largely responding to the steep reductions in the prices of tobacco and other agricultural products during the recession of 1921. The cooperatives had little success and were eventually disbanded.

Table 6.3. Selected production and trade statistics for U.S.-grown, unmanufactured tobacco and for U.S.-produced cigarettes, 1975–1999

	Pounds of tobacco (millions)*				*Number of cigarettes† (billions)*		
		Actual use					
Year	Total production	Total	Domestic use	Exports	Total production	Domestic consumption‡	Exports
1975	2,182	1,941	1,286	655	651.2	607.2	50.2
1976	2,136	1,907	1,229	678	693.4	613.5	61.4
1977	1,913	1,895	1,202	693	665.9	617.0	66.8
1978	2,054	1,955	1,190	765	695.9	616.0	74.4
1979	1,527	1,869	1,175	694	704.4	621.5	79.7
1980	1,786	1,759	1,109	649	714.1	631.5	82.0
1981	2,064	1,762	1,065	697	736.5	640.0	82.6
1982	1,994	1,662	1,034	628	694.2	634.0	73.6
1983	1,429	1,532	936	596	667.0	600.0	60.7
1984	1,728	1,621	955	666	668.8	600.4	56.5
1985	1,511	1,620	1,000	620	665.3	594.0	58.9
1986	1,163	1,572	981	591	658.0	583.8	63.9
1987	1,191	1,688	1,115	573	689.4	575.0	100.2
1988	1,370	1,565	1,010	555	694.5	562.5	118.5
1989	1,367	1,677	1,096	582	677.2	540.0	141.8
1990	1,625	1,794	1,163	631	709.7	525.0	164.3
1991	1,664	1,616	976	640	694.5	510.0	179.2
1992	1,722	1,590	960	630	718.5	500.0	205.6
1993	1,614	1,436	898	538	661.0	485.0	195.5
1994	1,583	1,604	1,080	523	725.5	486.0	220.2
1995	1,268	1,491	958	533	746.5	487.0	231.1
1996	1,503	1,698	1,068	630	754.5	487.0	243.9
1997	1,714	1,494	962	532	719.6	480.0	217.0
1998	1,489	1,440	901	539	679.7	485.0	201.3
1999§	1,267	Δ	Δ	Δ	635.0	435.0	150.0

*Marketing year, beginning July 1 for flue-cured and cigar wrapper and October 1 for all other types.
†Calendar year. May contain imported tobacco.
‡Allows for estimated inventory change.
§Preliminary estimate.
ΔNot available.
Sources: U.S. Department of Agriculture 1997c, 1998a, 1999a.

The price support system came into existence a decade later. In response to the impact that the 1930s' Great Depression had on farmers, Congress passed the Agricultural Adjustment Act of 1933 (Public Law 73-10) to control the supply of tobacco and other agricultural products whose prices had fallen sharply. The intent of this and subsequent agricultural price support programs was to support the income of farmers and stabilize the quantity and prices of agricultural commodities. These programs also gave tobacco farmers some ability to counteract the economic power of the highly concentrated cigarette producers (Warner 1988).

Minimum Prices, Nonrecourse Loans, and Quotas

The federal program for tobacco price supports involves specific economic interventions and assistance. To stabilize the price and quantity of tobacco produced, the program guarantees minimum market prices and establishes marketing quotas. Minimum (or support) prices are essentially determined by past tobacco prices adjusted for changes in cost indexes. When unable to find a private buyer at a price at or above the support level, a tobacco farmer is eligible for a nonrecourse government loan from a local price stabilization cooperative. This type of loan allows for a commodity, in this case tobacco, to be used as collateral for the loan at the support price. Under annual contracts with the cooperatives, USDA's Commodity Credit Corporation loans funds it has borrowed from the U.S. Treasury (in the past, at less than market rates of interest [Johnson 1984]). Each cooperative processes and stores the tobacco it has received as the farmer's collateral, and the Commodity Credit Corporation collects interest on the loan. The cooperative then attempts to sell the tobacco. If the cooperative can receive a price above the support price, the proceeds are used to repay the loan, and any excess receipts go to the tobacco farmer. This process has created the appearance that tobacco farmers are not being directly subsidized (Johnson 1984).

Marketing quotas, determined by the U.S. Secretary of Agriculture, are intended to be sufficient to meet the domestic and foreign demand for U.S. tobacco at a price above the government support price. Originally, tobacco could be grown only on land that had been assigned a quota, which was based on that farm's proportion of tobacco produced when the program was initiated (with a limited amount of new production allowed each year). Consequently, almost the only way to begin growing tobacco was to buy or rent a farm that had been granted the right to grow tobacco. In 1961, farmers who grew flue-cured tobacco approved intracounty lease and transfers of allotments; burley tobacco farmers followed suit in 1971. For the first several decades, these quotas were implemented through national acreage allotment systems. The acreage allotments were replaced by poundage quotas in 1965 for flue-cured tobacco and in 1971 for burley tobacco. The switch to poundage quotas increased flexibility for tobacco growers. In any given year, tobacco farmers could sell up to 10 percent more than their quota if yields exceeded expectations (because of favorable weather conditions, for example). In the following year, however, farmers would have to sell proportionately less than that quota. The opposite would apply when yields fell short of expectations. If yields fell short for several years, tobacco farmers could accumulate excess quotas up to an amount equal to their normal quota. This arrangement resulted in a more stable supply of flue-cured and burley tobacco (Johnson 1984).

Every three years, tobacco farmers vote on whether to continue the price support program and whether to approve any substantive changes in the system. If the referendum is approved by a two-thirds majority, tobacco farmers are subject to marketing quotas.

Effects of Price Supports on Market Prices

Despite the numerous factors that affect the supply and demand for tobacco, the quota and price support system keeps market prices at or above the support level. This effect has been evident—and its correction attempted—almost from the outset. As a result of the Agricultural Adjustment Act of 1933, tobacco prices increased almost immediately. These increases resulted from limits on output achieved by voluntary agreement. In 1934, Congress passed the Tobacco Control Act (Public Law 73-483) to deter noncooperative tobacco farmers from overproducing and taking advantage of the relatively high prices resulting from the reduced supplies of participating farmers. This act led to sharp reductions in tobacco production and consequently to a steep rise in tobacco prices. In early 1936, however, the United States Supreme Court found sections of the Agricultural Adjustment Act unconstitutional, which led Congress to repeal the Tobacco Control Act as well.

In 1935, Congress enacted the Tobacco Inspection Act (Public Law 74-314), which required the USDA to provide tobacco grading (or quality evaluation) services at no cost to tobacco growers. In 1936, the Soil Conservation and Domestic Allotment Act (Public Law 74-461) was passed. This act covered tobacco, as well as most other agricultural products covered by the

Agricultural Adjustment Act of 1933, and rewarded farmers for diverting production from soil-depleting crops (including tobacco) to soil-conserving crops. The limited success of the Soil Conservation and Domestic Allotment Act led to the passage in 1938 of the second Agricultural Adjustment Act (Public Law 75-430). The new act included quotas for tobacco and other agricultural products and imposed penalties on farmers who violated their quotas. Even with subsequent amendments, the tobacco price support program established by the Agricultural Adjustment Act of 1938 is essentially the same today.

The Agricultural Adjustment Act of 1938 set the support price at 75 percent of parity (where parity reflects average tobacco prices from 1919 through 1929). At the beginning of World War II and later through the Agricultural Act of 1949 (Public Law 81-439), this proportion was raised to 90 percent of parity, which was based on average prices for the preceding 10 years. In 1960, to slow the rate of growth in tobacco prices, Congress set new support levels based on the 1959 level and a three-year moving average of prices paid by farmers. Similarly, in 1980, the support prices for the eight lowest quality grades of tobacco were lowered directly.

Assessments to Offset Federal Costs of Price Supports

Until new legislation was passed in the 1980s, the costs to the federal government from operating the tobacco support program were substantial. In 1981 alone, the total administrative cost of the program was $13.1 million. Moreover, the federal government, through the Commodity Credit Corporation, bore all costs if the local cooperatives were unable to sell the tobacco they received as collateral for the nonrecourse loans. By April 1982, losses from unpaid loan principal totaled $57 million, and interest losses amounted to $591 million by the end of 1981 (General Accounting Office [GAO] 1982). These losses spurred opposition to the tobacco support program, which was being threatened with dissolution. To reduce some of the costs of operating the program, in 1981 Congress amended the Tobacco Inspection Act, imposing fees on tobacco growers sufficient to cover the cost of the grading services provided by the USDA.

Far more significant changes to the tobacco support program were introduced by the No Net Cost Tobacco Program Act of 1982 (Public Law 97-218), which was mandated by the Agriculture and Food Act of 1981 (Public Law 97-98). The act was intended to reduce the losses of the tobacco support program by imposing an assessment on every pound of tobacco brought to market under the loan program. The assessments were supposed to generate revenues sufficient to offset all future losses from these loans. Thus, aside from the administrative costs, the tobacco support program was supposed to operate at no net cost to taxpayers. Other changes were introduced through the act. Rather than distributing excess receipts from the sale of loan tobacco to farmers, these profits were retained by the Commodity Credit Corporation. Farmers of flue-cured tobacco could sell their right to grow tobacco to other active tobacco growers in the same county; moreover, institutional owners of these rights were required to sell them by December 1984. Finally, the U.S. Secretary of Agriculture was given the authority to slow the growth in the support price by allowing the price to increase by as little as 65 percent of the increase implied by the parity formula. These changes led four relatively small associations of tobacco growers (growers of cigar tobacco in three areas) to stop participating in the support program (Miller 1994).

Initially, assessments were expected to be relatively low because of the size of past losses. However, as a result of the tobacco support program, U.S. support prices were well above tobacco prices in world markets, which led producers of cigarettes and other tobacco products to increase their use of imported tobacco. At the same time, reductions in quotas were limited by statute. Consequently, the quantity of tobacco produced exceeded the quantity demanded at the support price, and the surplus was used as collateral for nonrecourse loans (Miller 1994). By 1985, with a growing stock of U.S.-grown tobacco under loan, the no-net-cost assessment on flue-cured tobacco was high: 25 cents per pound (Miller 1994). (The assessment on burley tobacco would have been 30 cents per pound but was limited to 4 cents by legislation.)

The high assessments, the growing importance of imported tobacco in the production of cigarettes and other tobacco products, the increasing stocks of tobacco under loan, and the falling quotas of the early to mid-1980s created a crisis for tobacco farmers and the tobacco support program (Northup 1993). Congress responded by making several changes to the support program (Tobacco Program Improvements) contained in the Consolidated Omnibus Budget Reconciliation Act of 1985 (Public Law 99-272). The 1985 act lowered the tobacco support price by 26 cents per pound for both flue-cured and burley tobacco. In addition, both buyers and sellers of surplus tobacco were required to bear part of the burden of running the program (growers of other types of tobacco continued to be responsible for the full assessment). These changes were

meant to encourage the use of domestically grown tobacco over imported tobacco in the manufacturing of cigarettes and other tobacco products (Miller 1994).

Also as a result of this legislation, the amount of flue-cured and burley tobacco that could be sold without penalty was reduced from 110 percent of quota to 103 percent. The formulas used to determine the support prices for flue-cured and burley tobacco were also changed. These prices were now based on their levels in the preceding year, and adjustments were to be made from a five-year moving average of prices and changes in the cost of production. Past prices would be given two-thirds weight, and the remainder would be based on production costs (which included general variable expenditures but excluded costs of land, overhead, assessments, and other expenses not directly related to tobacco growing). The legislation also brought the major cigarette manufacturers into the quota-setting process, because they would be annually providing the U.S. Secretary of Agriculture with their intended purchases of tobacco. These manufacturers would be penalized if they did not purchase at least 90 percent of this intended amount.

When these changes took place, U.S. cigarette companies agreed to buy all future surplus stocks of tobacco (for the next eight years for flue-cured tobacco and the next five years for burley tobacco). Some of the existing stocks under loan were sold at sharp discounts; the federal government absorbed the losses. These changes were somewhat successful in reducing surplus tobacco stocks as well as the amount of tobacco brought under loan in any given year. Over the next five years, stocks of tobacco declined by nearly 40 percent, and total loan outlays fell by nearly 90 percent.

To fund deficit reduction of the federal budget, the Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508) added further marketing assessments on all commodity price support programs between 1991 and 1995; the marketing assessments were subsequently extended through 1998 (USDA 1997c). Tobacco growers and buyers each paid an additional assessment equal to 0.5 percent of the support price level. These additional assessments generated estimated revenues of more than $28 million in fiscal year 1997 (Womach 1999).

To further curb the use of imported tobacco, the Omnibus Budget Reconciliation Act of 1993 (Public Law 103-66) included the requirement that, beginning in 1994, domestically produced cigarettes include a minimum of 75 percent domestically grown tobacco. If this law was violated, the cigarette manufacturer was assessed on the amount of foreign-grown tobacco used in excess of the 25-percent limit. The assessment rate was determined by the difference between average prices of imported and domestic tobacco. Those producers who used an excess of imported tobacco were further required to make up the shortfall by purchasing tobacco stocks under loan. The act also subjected imported tobacco to the no-net-cost assessments beginning in 1994. Effective September 13, 1995, however, the domestic content requirement was dropped as part of a presidential tariff-rate quota proclamation because of its inconsistency with the General Agreement on Tariffs and Trade (GATT).

In general, the tobacco quotas have fallen in recent years, while support prices, after adjustment for inflation, have fallen sharply (Tables 6.4 and 6.5). As of March 31, 1995, the principal and interest value of tobacco loan inventory was $1.6 billion (Robert H Miller, Tobacco loan status report, unpublished data) which was down significantly from the $2.75 billion held as of June 30, 1986 (Warner 1988).

The no-net-cost assessment for the 2000 crop o flue-cured tobacco is 2.5 cents per pound for the producer and 2.5 cents per pound for the purchaser. Similarly, the no-net-cost assessment for the 2000 crop o burley tobacco is 3 cents per pound for both the grower and the buyer.

In fiscal year 2000, the federal government budgeted approximately $14 million for administering th tobacco support program (Womach 1999). In total, th directly tobacco-related activities of the USDA gener ated an estimated $174 million in net revenues in fis cal year 1999. The positive net revenues are the resul of revenues generated by the loan program and var ous assessments that more than offset the expenditure on the tobacco program and other tobacco-relate activities (including subsidized tobacco crop insuranc tobacco inspection and grading, tobacco research, dat collection and analysis, and other activities) (Womac 1999).

Discussion

Several conclusions emerge from analyses of th tobacco support program. The program's success i stabilizing tobacco prices is particularly evident whe they are compared with the prices of other agricultur commodities (including those covered by their ow support programs). One result of the price stability that output has also been relatively stable. As Johnso (1984) notes, "growing tobacco has been as close to sure thing as one can find in U.S. agriculture" (p. 5

The quantity of tobacco grown domestical is artificially low as a result of the supply restrictio created by the tobacco support program. Consequent